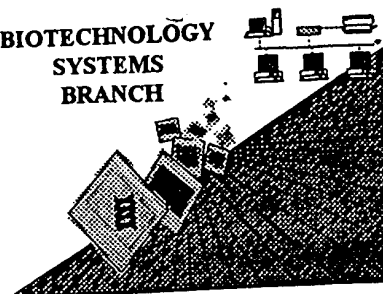


RAW SEQUENCE LISTING ERROR REPORT

BIOTECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

09/591,447

Source:

OIPK

Date Processed by STIC:

6/16/2000

BEST AVAILABLE COPY

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR FURTHER INFORMATION, PLEASE TELEPHONE MARK SPENCER, 703-308-4212.

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25. Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

Raw Sequence Listing Error Summary

ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER: 09/59/447

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics The number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".

- 2 Wrapped Aminos The amino acid number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".

- 3 Incorrect Line Length The rules require that a line not exceed 72 characters in length. This includes spaces.

- 4 Misaligned Amino Acid The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs
Numbering between the numbering. It is recommended to delete any tabs and use spacing between the numbers.

- 5 Non-ASCII This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.

- 6 Variable Length Sequence(s) contain n's or Xaa's which represented more than one residue.
As per the rules, each n or Xaa can only represent a single residue.
Please present the maximum number of each residue having variable length and
indicate in the (ix) feature section that some may be missing.

- 7 PatentIn ver. 2.0 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid
sequence(s) . Normally, PatentIn would automatically generate this section from the
previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section
to the subsequent amino acid sequence.

- 8 Skipped Sequences Sequence(s) missing. If intentional, please use the following format for each skipped sequence:
(OLD RULES) (2) INFORMATION FOR SEQ ID NO:X:
 (i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")
 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:
 This sequence is intentionally skipped

Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).

- 9 Skipped Sequences Sequence(s) missing. If intentional, please use the following format for each skipped sequence.
(NEW RULES) <210> sequence id number
 <400> sequence id number
 000

- 10 Use of n's or Xaa's Use of n's and/or Xaa's have been detected in the Sequence Listing.
(NEW RULES) Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

- 11 Use of <213>Organism Sequence(s) are missing this mandatory field or its response.
(NEW RULES)

- 12 Use of <220>Feature Sequence(s) are missing the <220>Feature and associated headings.
(NEW RULES) Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown"
Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)

- 13 PatentIn ver. 2.0 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted
file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).
Instead, please use "File Manager" or any other means to copy file to floppy disk.

OIPE

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/591,447

DATE: 06/16/2000
 TIME: 18:49:59

Input Set : A:\PTO-SG.txt
 Output Set: N:\CRF3\06162000\I591447.raw

*See Ser 5 on Encl
 Summary sheet*

Does Not Comply
 Corrected Diskette Needed

SEQUENCE LISTING

4 (1) GENERAL INFORMATION:
 E--> 6 (i) APPLICANT:
 14 (ii) TITLE OF INVENTION: VACCINES CONTAINING ATTENUATED BACTERIA
 16 (iii) NUMBER OF SEQUENCES: 4
 E--> 0 (iv) CORRESPONDENCE ADDRESS:
 8 (B) STREET: 10 St James's Street
 9 (C) CITY: London
 10 (D) STATE: not applicable
 11 (E) COUNTRY: United Kingdom
 C--> 12 (F) ZIP: SW1A 1EF
 C--> 18 (v) COMPUTER READABLE FORM:
 19 (A) MEDIUM TYPE: Floppy disk
 20 (B) COMPUTER: IBM PC compatible
 21 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 22 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)
 C--> 0 (vi) CURRENT APPLICATION DATA:
 C--> 0 (A) APPLICATION NUMBER: US/09/591,447
 C--> 0 (B) FILING DATE: 09-Jun-2000
 C--> 0 (viii) ATTORNEY/AGENT INFORMATION:
 7 (A) NAME: Medeva Europe Limited

*submitted file was in
 bold print - eliminate
 bold print
 see following pages*

ERRORED SEQUENCES

371 (2) INFORMATION FOR SEQ ID NO: 4:
 373 (i) SEQUENCE CHARACTERISTICS:
 374 (A) LENGTH: 428 amino acids
 375 (B) TYPE: amino acid
 376 (D) TOPOLOGY: linear
 378 (ii) MOLECULE TYPE: protein
 379 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
 381 Met Lys Asn Trp Lys Thr Leu Leu Leu Gly Ile Ala Met Ile Ala Asn
 382 1 5 10 15
 384 Thr Ser Phe Ala Ala Pro Gln Val Val Asp Lys Val Ala Val Val
 385 20 25 30
 386 Asn Asn Gly Val Val Leu Glu Ser Asp Val Asp Gly Leu Met Gln Ser
 387 35 40 45
 389 Val Lys Leu Asn Ala Ala Gln Ala Arg Gln Gln Leu Pro Asp Asp Ala
 390 50 55 60
 392 Thr Leu Arg His Gln Ile Met Glu Arg Leu Ile Met Asp Gln Ile Ile
 393 65 70 75 80
 395 Leu Gln Met Gly Gln Lys Met Gly Val Lys Ile Ser Asp Glu Gln Leu
 396 85 90 95
 398 Asp Gln Ala Ile Ala Asn Ile Ala Lys Gln Asn Asn Met Thr Leu Asp
 399 100 105 110
 401 Gln Met Arg Ser Arg Leu Ala Tyr Asp Gly Leu Asn Tyr Asn Thr Tyr

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/591,447
 DATE: 06/16/2000
 TIME: 18:49:59

Input Set : A:\PTO-SG.txt
 Output Set: N:\CRF3\06162000\I591447.raw

```

402          115          120          125
404 Arg Asn Gln Ile Arg Lys Glu Met Ile Ile Ser Glu Val Arg Asn Asn
405          130          135          140
407 Glu Val Arg Arg Arg Ile Thr Ile Leu Pro Gln Glu Val Glu Ser Leu
408 145          150          155          160
410 Ala Gln Gln Val Gly Asn Gln Asn Asp Ala Ser Thr Glu Leu Asn Leu
411          165          170          175
413 Ser His Ile Leu Ile Pro Leu Pro Glu Asn Pro Thr Ser Asp Gln Val
414          180          185          190
416 Asn Glu Ala Glu Ser Gln Ala Arg Ala Ile Val Asp Gln Ala Arg Asn
417          195          200          205
419 Gly Ala Asp Phe Gly Lys Leu Ala Ile Ala His Ser Ala Asp Gln Gln
420          210          215          220
422 Ala Leu Asn Gly Gly Gln Met Gly Trp Gly Arg Ile Gln Glu Leu Pro
423 225          230          235          240
425 Gly Ile Phe Ala Gln Ala Leu Ser Thr Ala Lys Lys Gly Asp Ile Val
426          245          250          255
428 Gly Pro Ile Arg Ser Gly Val Gly Phe His Ile Leu Lys Val Asn Asp
429          260          265          270
431 Leu Arg Gly Glu Ser Lys Asn Ile Ser Val Thr Glu Val His Ala Arg
432          275          280          285
434 His Ile Leu Leu Lys Pro Ser Pro Ile Met Thr Asp Glu Gln Ala Arg
435          290          295          300
437 Val Lys Leu Glu Gln Ile Ala Ala Asp Ile Glu Ser Gly Lys Thr Thr
438 305          310          315          320
440 Phe Ala Ala Ala Thr Lys Glu Phe Ser Gln Asp Pro Val Ser Ala Asn
441          325          330          335
443 Gln Gly Gly Asp Leu Gly Trp Ala Thr Pro Asp Ile Phe Asp Pro Ala
444          340          345          350
446 Phe Arg Asp Ala Leu Thr Arg Leu Asn Lys Gly Gln Met Ser Ala Pro
447          355          360          365
449 Val His Ser Ser Phe Gly Trp His Leu Ile Glu Leu Leu Asp Thr Arg
450          370          375          380
452 Asn Val Asp Lys Thr Asp Ala Ala Gln Lys Asp Arg Ala Tyr Arg Met
453 385          390          395          400
455 Leu Met Asn Arg Lys Phe Ser Glu Glu Ala Ala Ser Trp Met Gln Glu
456          405          410          415
458 Gln Arg Ala Ser Ala Tyr Val Lys Ile Leu Ser Asn
459          420          425
E--> 464 7

```

delete at end of file

see following page for more error

Sequence listing

SEQUENCE LISTING

09/59/1,447

(1) GENERAL INFORMATION:

- (i) APPLICANT: *↑ name - all responses must be on same line as heading*
~~(A) NAME: Medeva Europe Limited~~
~~(B) STREET: 10 St James's Street~~
~~(C) CITY: London~~
~~(D) STATE: not applicable~~
~~(E) COUNTRY: United Kingdom~~
~~(F) POSTAL CODE (ZIP): SW1A 1EE~~

(ii) TITLE OF INVENTION: VACCINES CONTAINING ATTENUATED BACTERIA

(iii) NUMBER OF SEQUENCES: 4

(iv) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

(v) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE:
(B) STREET:
(C) CITY:
(D) STATE:
(E) COUNTRY:
(F) ZIP:

*add these MANDATORY
headings on
responses for a U.S.
Case*

(vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER:
(B) FILING DATE:
(C) CLASSIFICATION:

← add these mandatory headings for a U.S. case

*Fr I: EPO format of PatentIn is invalid
for a U.S. case*

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/591,447

DATE: 06/16/2000

TIME: 18:50:00

Input Set : A:\PTO-SG.txt

Output Set: N:\CRF3\06162000\I591447.raw

L:12 M:220 C: Keyword misspelled or invalid format, [(F) ZIP:]
L:18 M:220 C: Keyword misspelled or invalid format, [(v) COMPUTER READABLE FORM:]
L:6 M:200 E: Mandatory Header Field missing, [(i) APPLICANT:] Value not provided
L:0 M:200 E: Mandatory Header Field missing, [(A) ADDRESSEE:]
L:0 M:248 E: Inserted missing Mandatory Header Field, [(iv) CORRESPONDENCE ADDRESS:]
L:0 M:247 C: Inserted Optional Header Field, [(viii) ATTORNEY/AGENT INFORMATION:]
L:0 M:249 C: Inserted Mandatory Field, [(vi) CURRENT APPLICATION DATA:]
L:0 M:249 C: Inserted Mandatory Field, [(A) APPLICATION NUMBER:]
L:0 M:249 C: Inserted Mandatory Field, [(B) FILING DATE:]
L:264 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:268 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:272 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:276 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:280 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:284 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:288 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:292 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:296 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:300 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:304 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:308 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:312 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:316 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:320 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:324 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:328 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:332 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:336 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:340 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:344 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:348 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:352 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:356 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:360 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:364 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:368 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
L:464 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:4